

# YOLO WILDLIFE AREA PRELIMINARY DRAFT LAND MANAGEMENT PLAN

## AGRICULTURE

### FOCUS GROUP MEETING

**MARCH 27, 2006**

#### AGRICULTURAL RESOURCES GOALS AND TASKS HANDOUT

Information regarding agricultural resources can be found throughout the Preliminary Draft Land Management Plan (LMP). This handout serves to direct stakeholders / public to specific agricultural-related Goals and Tasks provided in the LMP. For background information, refer to Chapter 3, "Environmental Setting," Section 3.2, "Agricultural Resources and Land Uses."

#### **SPECIFIC AGRICULTURAL-RELATED GOALS AND TASKS FROM CHAPTER 5 - MANAGEMENT GOALS**

##### **5.2.1.1 MANAGEMENT FOR SPECIES GUILDS**

Species Guilds Goal (SG-1): *Manage and maintain habitat communities for shorebird and wading bird species.* [full text is available on page 5-7 of the Preliminary Draft LMP]

Tasks: [page 5-9]

2. Manage agriculture for shorebird species through newly developed shorebird/rice rotation.
  - a. *July 1:* Flood shallow unplanted rice fields which have been disced at least twice.
  - b. *July 1 through end of August:* Maintain shallow water.
  - c. *September 1:* Drain fields, disc weeds and prepare field for rice planting to occur in the following spring.
4. Perform field preparation of some agricultural fields in the fall in order to present disced field habitat for species that utilize this habitat such as horned larks, longspurs, and mountain plover.

Species Guilds Goal 2 (SG-2): *Manage and maintain habitat communities for water-fowl species.* [page 5-9]

**Tasks:** [page 5-10 – 5-11]

1. Manage seasonal and permanent wetlands and other communities to provide habitat for resident waterfowl species.
  - b. Disc, mow, burn, and/or graze vegetation as necessary to promote desirable species, eliminate species not valuable for wildlife (e.g., cocklebur), promote a higher quality seed bed for the following year and to maintain required ratios of open water after fall flood up.
  - e. Flood rice fields as early as possible after harvest is completed to attract migratory waterfowl.
2. Manage upland vegetation to provide desired nesting habitat.
  - a. Plant fields of wheat and vetch to provide high quality nesting habitat the following year.

Species Guilds Goal 3 (SG-3): *Maintain and enhance habitat for upland game species.* [page 5-11]

Tasks: [page 5-12]

1. On an experimental basis, dedicate two fields to provide all habitat requirements within discreet areas in accordance with Diverse Upland Habitat Unit (DUHU) techniques being developed on several state wildlife areas.
4. Annually plant grain field to provide foraging areas for upland game and hunting opportunities for upland game hunters.

Species Guilds Goal 4 (SG-4): *Manage and maintain habitat communities for raptors.* [page 5-12]

Tasks: [page 5-13]

1. Manage for rodents and large insects to provide adequate prey items in order to benefit foraging raptor species.
  - b. Plant food plots that will not only provide food for birds, but rodents as well. Legumes and grain crops such as vetch, clovers, wheat, sunflower, milo, corn, and safflower are recommended.
  - c. Manage disking, mowing, and summer irrigation to attract large numbers of Swainson's hawks, which feed on grasshoppers.
  - d. Manage fall flooding of agricultural fields to attract wintering raptors.

Species Guilds Goal 6 (SG-6): *Manage and maintain communities for neotropical bird species.* [page 5-14]

Tasks: [page 5-15]

2. Manage upland habitat to include variations in height, density of vegetation, food crops, and water to benefit a diverse array of resident ground nesting shorebirds, songbirds, raptors and owls as well as game species such as ring-necked pheasant.

### **5.2.1.3 NONNATIVE INVASIVE SPECIES**

Invasive Species Goal 1 (IS-I): *Prevent the introduction and spread of invasive nonnative species that have 110 benefit to wildlife.* [page 5-16]

Tasks: [page 5-19]

3. Manage and control invasive and other nonnative species through specified grazing practices, controlled flood-up and drawdown procedures, use of pesticides, and other conventional agricultural practices.
  - a. During the rosette growth stage of starthistle, apply Transline® for control of this invasive weed.
  - b. Apply Telar® to perennial pepperweed stands during early growth stages in spring.
  - c. Utilize grazing as a tool to control perennial pepperweed in the grazing areas of the Tule Ranch.
  - d. Utilize grazing as a means of controlling perennial pepperweed in pastures and as an initial treatment in preparation for disking or Roundup® application for the control of jointgrass.
  - e. Evaluate the effectiveness of monitoring and control methods periodically; adjust methods as needed.
  - f. Coordinate with and support regional control efforts including the efforts of the Yolo County Weed Management Area.
  - g. Continue coordination with Yolo County for the control of Iberian star thistle on the Tule Ranch.
  - h. Provide education and outreach regarding control efforts.
  1. Share results of control efforts with other Wildlife Areas and private habitat managers in the area.
  - j. Coordinate control efforts with needs of local farmers who share the use of the Mace Ranch Irrigation System.

- k. Coordinate all actions with the DFG pesticide use programs. Ensure that all actions comply with the ESA and CESA and other regulations aimed at the protection of special-status species and sensitive habitats as well as current county and state regulations regarding the application of pesticides.
- l. Maintain a consistent level of expertise in regards to pesticide use techniques and chemical effectiveness by requiring current pesticide applicator's certification for at least two on-site employees.
- m. Consider and avoid unintentional effects to other plant species.
- n. Avoid adverse effects to native forbs in Tule Ranch grassland communities as a result of herbicide applications for the control of starthistle.
- o. Avoid adverse effects to agricultural crops in the area through drift in the air or water.
- p. Coordinate herbicide treatments to avoid contact with visitors.

#### **5.2.1.6 GRASSLAND AND UPLAND COMMUNITIES**

Grassland and Upland Goal 1 (GU-1): *Maintain and enhance grassland and upland communities for diversity and abundance of native species.* [page 5-25]

Tasks: [page 5-26]

- 3. Improve habitat for special-status species in the grassland ecosystems at the Yolo Wildlife Area through the adaptive management of livestock grazing, limited herbicide application, native grass plantings, and other management techniques.

Grassland and Upland Goal 2 (GU-2): *Restore and enhance grassland and upland communities to conditions that provide desired ecological functions.* [page 5-26]

Tasks: [page 5-27]

- 4. Enhance grasslands and uplands through grazing, native grass plantings, and other management techniques.

### **5.2.3 AUTHORIZED PUBLIC-USE ELEMENT**

Public-Use Goal 1 (PU-1): *Increase existing and provide new long-term opportunities for appropriate wildlife dependent activities by the public.* [page 5-34]

Tasks for maintaining and improving hunting: [page 5-36]

22. Continue to work with local farmers to grow agricultural food plots in order to provide improved hunting opportunities.

## **5.2.5 FACILITIES ELEMENT**

Facilities Goal I (F-I): *Construction, maintenance, and removal of facilities.* [page 5-49]

Tasks: [page 5-49]

2. Maintenance of water management infrastructure including pumps, water control gates, and water distribution system performed by DFG, agricultural lease tenants, and cooperatively by members of the Mace Ranch Irrigation System.

## **5.2.6 ADMINISTRATION ELEMENT**

Administration Goal I (A-I): *Maintain current data on the management and resources of the Yolo Wildlife Area.* [page 5-51]

Tasks: [page 5-52]

4. Administer agricultural leases as necessary in cooperation with staff from the Dixon Resource Conservation District (RCD).
  - a. Annually plan agricultural activities throughout the Wildlife Area including production fields and wildlife food plots.
  - b. Coordinate desires of lessees with limitations of Mace Ranch Irrigation System and its other users.
  - c. Plan for administration of Farm Service Agency funds to lessees and reciprocal services to be provided to Wildlife Area.
  - d. Periodically inspect agricultural activities throughout the year.
  - e. Plan for the post harvest treatment of agricultural fields.

## **5.2.9 MANAGEMENT COORDINATION ELEMENT**

Management Coordination Goal 5 (MC-5): *Maintain relationships with neighbors and tenants to address management issues.* [page 5-61]

1. Meet or correspond with adjacent landowners and tenants as needed individually or through the Yolo Bypass Working Group to maintain communication about management needs of the Yolo Wildlife Area, determine adjacent landowners' access and management needs, and convey useful information regarding activities.
2. Collaborate with adjacent landowners and tenants regarding DFG management activities that may affect their operations. Resolve potential issues by proactively working with adjacent landowners and tenants.
3. Collaborate with adjacent special districts including Reclamation District 2068, Dixon RCD, No Man's Land Fire District, East Davis Fire District, and South Davis Drainage District.

# **YOLO WILDLIFE AREA PRELIMINARY DRAFT LAND MANAGEMENT PLAN**

## **FISHERIES**

### **FOCUS GROUP MEETING**

**APRIL 3, 2006**

#### **FISHERIES RESOURCES GOALS AND TASKS HANDOUT**

Information regarding fisheries resources can be found throughout the Preliminary Draft Land Management Plan (LMP). This handout serves to direct stakeholders / public to specific fisheries resources-related Goals and Tasks provided in the LMP. For background information, refer to Chapter 3, "Environmental Setting," Section 3.5, "Biological Resources."

#### **SPECIFIC FISHERIES RESOURCES-RELATED GOALS AND TASKS FROM CHAPTER 5 - MANAGEMENT GOALS**

##### **5.2.1 BIOLOGICAL RESOURCES ELEMENTS**

###### **5.2.1.7 AQUATIC ECOSYSTEMS**

Aquatic Ecosystems Goal 1 (AE-1): *Maintain and enhance aquatic ecosystems for diversity and abundance of native species (including special-status species).* [full text is available on page 5-28 of the Preliminary Draft LMP]

Tasks: [page 5-28 through 5-29]

1. Monitor use of aquatic habitats at the Yolo Wildlife Area by special-status fish species.
2. Improve habitat for special-status fish species using aquatic habitats at the Yolo Wildlife Area (see Aquatic Ecosystems Goal 3 below).
3. Identify sites (e.g., permanent wetlands, ponds, Green's Lake) for reintroduction of native fish species (e.g., Sacramento perch).
4. Ensure that actions comply with the ESA and CESA and other regulations aimed at the protection of special-status species and are in accordance with the MOU between DFG, USFWS, DWR, and the State Reclamation Board.

Aquatic Ecosystems Goal 2 (AE-2): *Maintain and enhance habitat for game fish species.* [page 5-29]

Tasks: [page 5-29]

1. Monitor and assess management, human use, invasive nonnative species, and other effects on habitat for desired game species.

2. Evaluate access points, angling use, and regulations periodically; recommend changes as warranted to maintain and enhance aquatic habitats and populations of game species.
3. Improve habitat structure in permanent wetlands for the benefit of game fish species.

Aquatic Ecosystems Goal 3 (AE-3): *Restore and enhance aquatic ecosystems to conditions that provide desired ecological functions.* [page 5-29]

Tasks: [page 5-30 through 5-31]

1. Identify opportunities to restore aquatic ecosystems at the Yolo Wildlife Area. Cooperate with development and implementation of restoration plans for aquatic ecosystems by the CALFED ERP and other programs that are consistent with the goals of the Yolo Wildlife Area and this LMP. Potential projects may include the following:
  - a. Creating a new realigned Putah Creek channel through the Tule Ranch Unit (Putah Creek from above the Los Rios Check Dam to the East Toe Drain below the Lisbon Weir).
  - b. Exploring the potential for restoration of intertidal marsh habitat and/or seasonal managed floodplain habitat at the southeast portion of Tule Ranch adjacent to the East Toe Drain for the benefit of native fish species such as splittail. Certain bird species such as black rail may also benefit.
  - c. Independent of Goal 1, consider improving coordination and enhancement of spring passage of chinook salmon smolts emigrating from Putah Creek through the Los Rios Check Dam to the East Toe Drain.
    1. Coordinate annual replacement of the check dam after the arrival of spring water releases from the Solano Diversion Dam intended to move salmon smolts from Putah Creek into the toe drain.
    2. Consider the construction of a fish passage facility at the check dam to move adult salmon upstream and smolts downstream.
  - d. Restore native fish to Green's Lake and permanent ponds including Sacramento perch. Stocking of this fish species may also serve as a biological control agent for mosquitoes.
2. Continue coordination and enhancement of fall passage of chinook salmon immigrating from the East Toe Drain through the Los Rios Check Dam to Putah Creek. Currently, when fish are detected in the Toe Drain, based on fike trapping results conducted by the DWR, a sequence of events is initiated. If local farmers and Wildlife Area staff are through utilizing the check dam for irrigation and flood up, its removal is scheduled. A release of water from the Putah Diversion Dam is directed to arrive at the Los Rios Check Dam at the same time the flash boards are being removed. The combined flows from the Diversion Dam coupled with the head of water released from the check dam act as an attraction flow to queue salmon into Putah Creek.
  - a. Consider the construction of a fish passage facility at the Los Rios Check Dam to allow passage of adult salmon upstream and juveniles downstream while still maintaining the Los Rios Check Dam in place.
  - b. Improve Lisbon Weir for both the passage of anadromous salmon into Putah Creek and increased water capture efficiency for irrigation purposes.

3. Pursue funding and develop plans for identified restoration projects that include goals, techniques, costs, monitoring, an adaptive management process, public outreach, and a schedule.
4. Design and manage restoration and enhancement projects that would not conflict with necessary flood flow conveyance requirements of the Yolo Bypass. Ensure that proposed projects would not result in adverse effects on local or downstream flood hydrology and would comply with the requirements of the State Reclamation Board. Project planning may include necessary hydraulic modeling to confirm achievement of performance criteria. A work plan for hydraulic modeling is provided in Appendix C.
5. Ensure that actions comply with the ESA and CESA and other regulations aimed at the protection of special-status species and/or sensitive habitats.
6. Design and operate restoration and enhancement projects in coordination with the SYMVCD. Project design and operation shall include technical BMPs for mosquito control in managed wetlands developed by the CVHJV (Kwasny et al. 2004).

### 5.2.3 AUTHORIZED-PUBLIC USE ELEMENT

Public-Use Goal (PU-1): *Increase existing and provide new long-term opportunities for appropriate wildlife independent activities by the public.* [page 5-34]

Tasks for maintaining and improving angling: [page 5-36]

13. Develop maps and signs that indicate fishing access points.
14. Post fishing regulations in appropriate locations.
15. Build access points for anglers with limited mobility along East Toe Drain.
16. Coordinate with DFG fishing in the city program to provide additional angling opportunities.
17. Expand spring bow fishing program to begin in the month of March when appropriate.

### 5.2.6 ADMINISTRATION ELEMENT

Administration Goal 1 (A-1): *Maintain current data on the management and resources of the Yolo Wildlife Area.* [page 5-51]

Tasks: [page 5-52]

8. Participate in habitat planning efforts for areas close to the Wildlife Area.

### 5.2.8 SCIENTIFIC RESEARCH AND MONITORING ELEMENT

Scientific Research and Monitoring Goal 1 (SRM-1): *Support appropriate scientific research and encourage or conduct research that contributes to adaptive management strategies and management goals of the Yolo Wildlife Area.* [page 5-56]

Tasks: [page 5-56 through 5-57]

1. Develop a prioritized list of research needs.
2. Review and evaluate proposed research projects using the following criteria:
  - a. Potential for research results to improve management of the Yolo Wildlife Area, other wildlife areas, or other ecosystems;
  - b. Potential for conflicts between the research and compatible public uses;
  - c. Potential for conflicts between the research and any biological goals stated in this LMP; and
  - d. Scientific rigor in the proposed research design, methods of study, and scope of inference.
2. Provide letters or permits to researchers specifying dates and times of authorized access, and information on regulations and area restrictions.
3. Require that researchers provide copies of data and/or published papers, and contact researchers to ensure that this requirement is fulfilled.
4. Encourage long-term studies of the following:
  - a. Ecology of managed wetlands;
  - b. Agroecology;
  - e. Invasive species management;
  - g. Trends in abundance, reproduction, survival, and/or habitat use by special-status species (e.g., giant garter snake), game species, or other species of regional interest (e.g., grasshopper sparrow);
  - h. Mercury methylation processes in managed wetlands and crops, development and monitoring of experimental demethylation BMPs, and effects of methyl mercury on birds;
  - i. The Central Valley RWQCB is currently in the process of developing mercury and methymercury TMDL for the Delta. Development and implementation of experimental BMPs to address mercury methylation holds great potential to better understand and address wetland restoration throughout the region.
5. Conduct high-priority surveys, including surveys for special-status species, as time and budget permit;
6. Public use patterns and effectiveness of public use programs;
7. Effectiveness of environmental education programs; and
8. Encourage sharing of scientific information through the Yolo Bypass Working Group.

### **5.2.9 MANAGEMENT COORDINATION ELEMENT**

Management Coordination Goal I (MC-I): *Coordinate with federal, state, and local agencies regarding plans and projects that may affect habitats and/or management at the Yolo Wildlife Area.* [page 5-59]

Tasks: [page 5-59]

1. Review, coordinate, and provide comments and recommendations on federal, state, and local government plans and proposed projects as appropriate for the purpose of determining the consistency of such plans with the goals of DFG's LMP.
2. Coordinate with Yolo County NCCP proponents to make them aware of habitat restoration efforts at the Wildlife Area.
3. Coordinate with the Yolo County program to survey, control, and monitor invasive plant species.
4. Collaborate with or submit proposals for CALFED-funded projects that could contribute both to the attainment of the goals of this LMP and to the attainment of CALFED goals, objectives, targets, and milestones.
5. Support the implementation of research, monitoring, and restoration actions compatible with the goals of this LMP by the California Bay-Delta Authority and other CALFED implementing agencies.

Management Coordination Goal 2 (MC-2): *Coordinate with flood control agencies regarding flood control and management in the Yolo Bypass.* [page 5-59]

Tasks: [page 5-60]

1. Review, coordinate, and provide comments and recommendations on plans and proposed projects as appropriate to determine the consistency of such plans with the goals of DFG's LMP. DFG biologists in the Sacramento Valley Central Sierra Region shall serve as the lead in coordinating ecosystem restoration components of future flood protection improvement efforts.
2. Coordinate with DWR and the State Reclamation Board regarding the design and operation of restoration and enhancement projects that have the potential to conflict with necessary flood flow conveyance requirements. All projects should continue to be designed and operated to continue to have no impact on existing flood flow conveyance requirements of the Yolo Bypass. Project planning may include necessary hydraulic modeling to confirm achievement of performance criteria (i.e., avoid potential adverse effects on necessary flow conveyance). All hydraulic modeling would be conducted in coordination with appropriate flood control and management agencies. A work plan for hydraulic modeling is provided in Appendix C.
3. Continue public outreach programs which describe the compatible nature of appropriate wetland management activities with flood protection efforts.

Management Coordination Goal 5 (MC-5): *Maintain relationships with neighbors and tenants to address management issues.* [page 5-61]

Tasks: [page 5-62]

1. Meet or correspond with adjacent landowners and tenants as needed individually or through the Yolo Bypass Working Group to maintain communication about management needs of the Yolo Wildlife Area, determine adjacent landowners' access and management needs, and convey useful information regarding activities.
2. Collaborate with adjacent landowners and tenants regarding DFG management activities that may affect their operations. Resolve potential issues by proactively working with adjacent landowners and tenants.

# **YOLO WILDLIFE AREA PRELIMINARY DRAFT LAND MANAGEMENT PLAN**

## **FLOOD PROTECTION**

### **FOCUS GROUP MEETING**

**APRIL 7 2006**

## **YOLO WILDLIFE AREA - HYDRAULIC MODELING WORK PLAN HANDOUT**

For any proposed restoration project within the Yolo Bypass, hydraulic modeling is an essential element to guide the design of the project and to confirm that performance criteria are being achieved (i.e., adverse affects to flow conveyance are being avoided). This hydraulic modeling is an essential element in permit application submitted to the State Reclamation Board for approval. To improve the probability of permit approval, the hydraulic modeling needs to demonstrate neutral or beneficial hydraulic effects to the 100-year design water surface profile. To facilitate this, the U.S. Army Corps of Engineers (USACE), using CALFED Bay-Delta Program 2002 Ecosystem Restoration Program (ERP) grant funding, has developed a baseline two-dimensional hydraulic model of the Bypass using RMA2 (USACE 2006). Exhibit C-1 (see below), in conjunction with text below, is intended to provide the end-user of the RMA2 model a work plan for guiding design and confirming that performance criteria are being achieved for any proposed restoration project or "encroachment" within the Bypass.

### **1. PROJECT INITIATION (PHASE I) -IDENTIFY AND CONFIRM THE BASELINE RMA2 MODEL. .**

- a. The baseline RMA2 model originally developed by the USACE (2006) uses the Sacramento/San Joaquin Rivers Comprehensive Study topography and roughness coefficients calibrated to the 1997 flood event.
- b. The Comprehensive Study topography is of 1-foot accuracy and lacks detail below the water line (e.g. the Toe Drain) due to the method (LiDAR) used to obtain the topographic surface. Additional topographic and bathymetric data in the Toe Drain and in Liberty Island (areas currently under water) were collected in 2005 to augment the existing data as part of the modeling effort.
- c. The calibrated roughness coefficients (see Table 3.4-1) were updated per the land use distribution observed in 2002 aerial photographs.
- d. The baseline model should be continually updated to reflect the cumulative effects of permitted encroachments and land use changes. As such, it is imperative to obtain the current baseline

model and model history from the "model gatekeeper". The Reclamation Board should also approve the baseline model before moving to Phase II.

Note: at the time of writing this Land Management Plan (LMP), the "model gatekeeper" has not been identified; as an important step in any future management actions, a "model gatekeeper" should be identified.

## **2. PROJECT DESIGN / ASSESSMENT (PHASE II) - GUIDE DESIGN AND CONFIRM ACHIEVEMENT OF PERFORMANCE CRITERIA OF THE PROPOSED PROJECT.**

- a. Install the current baseline RMA2 model.
- b. Create a baseline sub-model to encompass the proposed encroachment per USACE recommendations (see User Manual for details).
- c. Run the baseline sub-model and verify that sub-model outputs (i.e. depth and velocity) match the model outputs from the larger model. Furthermore, verify that the current baseline water surface profile is less than or equal to the design water surface profile or notify the Reclamation Board if it is not.
- d. Create proposed restoration project sub-model(s) by updating the baseline sub-model with proposed topographic and land use conditions. If topographic updates include localized mesh refinements, then grid sensitivity/grid dependency analyses need to be conducted. If proposed land uses differ from those provided in Table 3.4-1, formulate proposed roughness coefficients based on engineering judgment (see, e.g., Chow [1959] and Arcement & Schneider [1989]) and composite roughness estimation techniques (e.g. Freeman et al. [2000]) for the mid-to-late winter flood season.
- e. Run proposed restoration project sub-model(s) and compare model outputs with baseline sub-model output. To make permit approval more likely, the goal for project design should be that there are neutral or beneficial hydraulic effects to the 100-year design stage and that velocities are not erosive. Furthermore, there should be no hydraulic effects (i.e., beneficial or detrimental) at the sub-model boundaries; if there are adverse hydraulic effects, sub-model boundaries need to be adjusted (i.e., moved sufficiently distant from the area of interest such that boundary forcing effects are not observed).
- f. Submit permit application to the State Reclamation Board for review. The permit application should include the hydraulic modeling results for the recommended project. The State Reclamation Board will forward the permit application to the USACE for comment.

- g. Address State Reclamation Board and USACE comments and/or refine recommended project by returning to Item 2.d.
- h. Following permit application approval by the Board, forward recommended and as-built project sub-models to the model gatekeeper.

**3. MODEL UPDATE (PHASE III) - UPDATE MODEL FOR CUMULATIVE EFFECTS.**

- a. To ensure that the baseline RMA2 model is maintained to address the cumulative hydraulic effects of permitted encroachments, a designated model gatekeeper is responsible for updating the model.
- b. The model gatekeeper has the sole responsibility of updating the baseline model for permitted encroachments, documenting the evolution of the baseline model, and distributing the updated baseline model and documentation to the end-user.
- c. The end-user has the responsibility of furnishing to the model gatekeeper the proposed encroachment sub-model and the as-built encroachment sub-model. The proposed encroachment sub-model is necessary to define the expected condition of the baseline model in the event that there are concurrent permit applications seeking approval.
- d. The end-user also has the responsibility of providing a monetary means for the model gatekeeper to update the model.

Note: regarding non-permitted changes, natural or otherwise, we suggest the model gatekeeper be responsible for updating the model.

